

THE POWERS ABOVE

Drawing by Frank Snapp

BY MICHAEL WHITE



"Doran's method of tackling important work was peculiar."

DRANTED that the dispute between the president of a railroad and his chief engineer is of vital importance, with whom should a lesser man cast in his lot? It might be held that the best course would be to keep out of it altogether; or, if escape was impossible, to shift from one foot to the other of the argument, so that the third party did not jeopardize the good will of either. But some men are built to speak out their minds entirely heedless of consequences. That may be what is called moral courage, or again just plain fool lack of sense. But there is a third explanation that goes with the high mathematical brain; for the man whose lifework is made up of hair-splitting calculations is apt to regard the point of a decimal in a contested problem as of more importance than the security even of his weekly pay envelop. Hence requested resignations hold no worry for him. One or two such men now sit at the very top of the engineering profession; but they had a hard climb of it to get there. They were often out of positions.

It was so with Doran, assistant engineer of maintenance, who loved pottering over the fourth dimension of space as a violinist might his Stradivarius.

Personally Doran reached six feet one of long muscular limbs, to move with a steady, even stride over this earth's surface. No one had ever seen Doran in a hurry,—in fact, it was useless to try and hustle him,—but for all that there was an assured completeness in his work that surprised those who thought him slow going. In particular, Doran was a puzzle to Decort, the chief engineer. Decort was vaguely doubtful of Doran. The chief engineer, who prided himself on the vigor

and smartness of his ways, felt that Doran was not quite up to the mark of the road's standard of efficiency and discipline. At any rate, he was very strong on an outward display of efficiency and discipline—which, to be sure, was not Doran's strong point at all. But Decort kept Doran because he found that somehow in an emergency of bridge moving or the like his assistant of maintenance could always be relied upon. Besides, when it came to estimates Doran had never been known to fall down on a fraction. There was no doubt he was strong on mathematics, was that rather queer fellow Doran.

It was this motive that prompted the chief engineer to summon Doran to the president's office to back up plans for the Westfield Valley extension. The work was near to the chief engineer's ambition as likely to add greatly to his reputation, but just then not appealing to the president for financial reasons. It was for help to convince and argue down the president that the chief engineer sent for Doran.

DORAN entered, to stand with both feet planted squarely on the handsome Persian rug spread on the floor of the president's office. The president sat up center at an elaborately fitted mahogany writing table, looking a bit weary of the sustained force of his chief engineer's contention,—the pressing need of immediately undertaking the Westfield Valley extension. The chief engineer had come to a halt from pacing the Persian rug with his broad back toward a large framed photograph of the Inter-ocean Limited—the pride, pet, and special daily anxiety of the road—speeding along on a level stretch at seventy miles an hour. Doran waited while the chief engineer pressed home a point of his argument.

"Doran, here," the chief engineer waved a hand toward his assistant, "knows the situation thoroughly. He will be able to confirm my statement that the Westfield Valley extension would be a great saving of time and expense in our westbound express traffic."

The president turned in his chair and cast a comprehensive look on Doran. He was a quiet, inconspicuous man, in contrast to his chief engineer, who clothed a bulky form in tweeds of latest London pattern, and rather fancied danger-signal neckwear, with headlight jewelry of many candlepower.

"I presume you agree with what Mr. Decort says?" the president nodded slightly toward the chief engineer.

"One could hardly dispute the fact he has just stated, Sir," answered Doran.

The president half closed his eyes a moment, and swung a foot crossed over his knee a bit nervously. "Yes, yes," he said presently; "but the question is, are we compelled to go ahead with the work now? You believe, Decort, that the C., H. & D. is getting ready to build into Westfield and threaten our territory? That's the point I want to be certain about."

"I haven't the least doubt of it," put in the chief engineer decisively. "Their purpose is to tap our traffic at Westfield. Our policy must be to head them off with the Valley extension."

"What do you say, Mr.—er—Doran?" the president asked without inflection of voice.

For a full three minutes and a half Doran's eyes wandered over the room as if exhaustively reviewing the situation. It is said that when a man is provided with deep blue eyes in combination with a dark complexion he is likely to be a dreamer, a worker in theory rather than practice. Be that as it may in theory, at any rate Doran knew every mile of the system, its grades, curves, bridges, and embankments. It was pastime for him to figure out how certain sections could have been built with manifest improvement; also there dwelt within himself the unspoken conviction that but for him, Doran, the chief engineer would have made more than one conspicuous record of an engineering muddle. For that reason he adopted rather a paternal attitude toward Decort, and in the present case felt that it was due to him to see that the chief engineer did not overreach himself. Most assuredly the chief engineer would have been hugely gratified if a remote idea of it had entered his entirely self-satisfied brain.

WHILE Doran was considering these things the ticking of the president's watch became audible on being withdrawn from his waistcoat pocket. Finally Doran let his gaze drop to the president's expectant face.

"I don't see, Sir," he spoke thoughtfully, "how the C., H. & D. could have any such plan in project. It would cost them fifty millions to come down through the mountains to Westfield, and the line wouldn't pay for twenty years to come. To divert any of our traffic they would have a steep and expensive haul over to their main line. From the engineering point of view I should say it would be a big waste of money."

The president had evidently not anticipated this answer; for he swung back in his chair with the shade of a pleasant smile sweeping across his face. In his judgment conservatism in expenditure was the present necessary policy of his road, and he did not wish to rush into any avoidable venture. Therefore he was glad to be able to refute the chief engineer's argument out of the mouth of one of his own staff.

"Exactly," he nodded approval, tapping the blotter on his table with his fingertips. "You put the whole case plainly and squarely, Mr. Doran. I guess you've sized up the situation entirely right." He rose and moved to a map of the system hung upon the wall. "Here you are, Decort," he beckoned the chief engineer to his side. "I don't believe the C., H. & D. will come down to Westfield in our time. Their talk of doing so is all a bluff. It's just as your assistant, Mr. Doran, says about the cost of construction through those mountains. You can see there for yourself," he outlined with his finger a route on the map.

The chief engineer did see. He also thought a great deal more than it was advisable to utter in the president's office. Uppermost was chagrin and resentment that Doran, his assistant, had taken a side in the matter against him. A significant frowning look he shot at Doran missed its mark and hit the wall behind harmlessly. Doran was reckoning the cost of a bridge the C., H. & D. would be compelled to throw over the Westport River. Frowning or other looks rarely bothered him.

"I maintain," asserted the chief engineer, "that in a strife for territory the C., H. & D. will not consider the cost."

"No, no, Decort," the president shook his head. "When it comes to that end I know better than you. They are in no financial shape for the outlay. Mind, I



The extra piece set in back makes this comfortably closed crotch elastic.

CHALMERS
BROSKNIT
GUARANTEED

The new three-quarter length insures a covering for the knee, with no doubling up under the sock. Made in all styles.

Send for Booklet
Chalmers Knitting Co.
22 Washington Street
Amsterdam, N. Y.

The Tip That Never Comes Off

It is covered by part of the lace itself.

No metal to pull off—
No enamel to wear off—
No composition to soften.

Boston Tip
PATENTED
SHOE LACES

wear longer because a third stronger. Guaranteed color-fast and weather-proof.

See a pair at your dealer's—if he hasn't them, send to us.

Boston Spiral Tagging Co.
Providence, R. I.

\$3,000.00 IN ONE YEAR



Make it repairing automobile tires. Punctures and blowouts are common. Tires need retreading and vulcanizing. EACH AUTO SOLD MEANS MORE TIRES TO MEN. Auto tire repair field a hundred times bigger and better than old bicycle days. Johnson, Tex. writes: "I can make as high as \$15 profit in one day." Investigate today. Ask for free catalog.

RAYWOOD TIRE AND EQUIPMENT CO.
666 Capitol Ave.
Indianapolis, Ind.

Agents 90c an Hour

Sell guaranteed hosiery for men, women and children. Every pair guaranteed to last four months or new pair free. All styles and sizes. No delivery for everybody. Sells 52 weeks in the year. B. T. Tucker sold \$277.84 last month. Steady income. Big profits. Good repeater. Don't miss this big chance. Write quick for terms and sample outfit to work.

THOMAS HOSIERY COMPANY
9110 West St. Dayton, Ohio

Foot Guards
FLEXIBLE ARCH SUPPORTS

Exercise the muscles of the foot as well as support the arches. Send size and width of shoe and \$2.00 to Flexible Arch Support Co., 28 Beach St., Boston, Mass.

PATENTS SECURED OR FREE RETURNED

Send sketch for free search of Patent Office Records. How to Obtain a Patent and What to Invent with list of inventions wanted and prices offered for inventions sent free. Patents advertised free.

VICTOR J. EVANS & CO., Washington, D. C.

For Interesting and Valuable Information about

PATENTS WANTED

and bought by Manufacturers, send 6 cents postage for large illustrated paper Visible Results and Terms Book. B. S. & A. B. Lacey, Dept. W, Washington, D. C. Estab. 1869.

\$25.00 FOR DIME 1894 S. Mint. \$50 for 1893 half dollar, no arrows. \$750 for certain \$5 gold, no motto. We pay cash premiums for all rare money. Many valuable coins in circulation. Get posted. SEND TWO CENTS FOR ILLUSTRATED COIN CIRCULAR. THE NUMISMATIC BANK OF TEXAS, Dept. S, Fort Worth, Texas.

don't say you are wrong about the advantage to us of the Westfield Valley extension; but I guess we won't recommend it to the board of directors now: in two or three years maybe, when we can see our way ahead a bit clearer."

"Well, of course it's just as you decide, Mr. Vanderhof," the chief engineer perforce submitted.

"Yes, we'll lay the plan aside for awhile. Meantime perhaps advanced methods of construction will reduce the cost. At present the extension does not seem to be absolutely necessary."

"You have nothing more to say to me, then?" the chief engineer spoke a trifle sharply, putting on his hat as if about to leave the office in a huff.

"Yes—hold on a minute, Decort. There is the ventilation of that tunnel at Bord-hampton we are compelled to take up. Sit down—sit down, Man! Light one of those cigars." He passed to the table and took a box of Havanas across.

The president bestowed on Doran a word or two of official recognition; for secretly he rather chuckled on having upset his overmasterful chief engineer. Then he smilingly nodded an intimation that the lesser man could depart.

SO far as the Westfield extension was concerned it practically ended there; but entirely otherwise the course Doran had taken in opposing the chief engineer. Not that there was an immediate perceptible change in the chief's attitude toward Doran. He did not even vaguely refer to the dispute: if anything, appeared a shade more friendly. But gradually trouble began to pile up around Doran's position: not big things to tackle and wrestle with, but frequent petty worries which, like mosquito bites, at last made a man wonder if there is any satisfaction in this life. The worst of it was that Doran could not charge anyone definitely with being the cause of it all: certainly not the chief engineer, who, while continually wanting to know why this or that had gone wrong, encouraged Doran to greater efforts with an engineer's blessing. "You seem to have run into a streak of bad luck," Decort remarked. "It would be nonsense to talk to you of lack of efficiency and discipline. Maybe you need a change of some kind, Doran."

A different man might have guessed by the drift of things that the change to which the chief engineer referred was meant to accompany Doran's resignation. But Doran was a plainspoken man, never dealing in or taking heed of insinuations. He walked and talked by the light of mathematical precision. So he went to break his back, if not his spirit, over his daily toil, never imagining that his usefulness on that road was surely at an end in the chief engineer's mind.

SUDDENLY the chief engineer delivered his final stroke. He summoned Doran to his office at an hour when he knew his assistant would be pretty tired with a hard day's work. Doran must be forced out, since he wouldn't take a hint.

"See here, Doran!" began the chief. "I want to put in that switch on the north end of the Haven River Bridge between the running time of the Cleveland Express and the Inter-ocean Limited."

Doran thought a minute, and half subconsciously repeated the chief's order.

"Yes!" the chief snapped tersely. "I talk plainly, don't I? I want that switch placed in service tomorrow." His brow contracted into an ominous frown.

"But," protested Doran, "there is less than two hours between the Express and the Limited. It usually takes at least two and a half to put in a switch in that position."

The chief engineer sat up straight, and looked at Doran in a manner that would have told any ordinary man that his immediate resignation was expected. But Doran's mind was completely occupied in calculating whether there was a bare possibility of putting in the switch in the given time. The presentation of an engineering problem absorbed him to the exclusion of all trivial matters, in which presumably the mere holding to a job was included. In him it was his work, the thing to be done, that predominated.

"Do you mean to say you don't believe my order can be carried out?" the chief now spoke sharply and with heat, the color mounting to his cheeks. "Is that intended as an implication that I am lacking in professional ability, that I don't know what I am talking about?"

"No, certainly not, Mr. Decort!" Doran looked the chief innocently in the face. "But you must admit the order is exceptional, extremely heavy rush work."

The chief engineer's hand fell with a thump on his desk. His animosity had

plainly broken out upon the surface; but apparently Doran was unconscious of it.

"Now, Mr. Doran," said the chief severely, "I want you to understand me. You should know by this time that any breach of discipline will not be tolerated."

Doran nodded a remote agreement. He was still thinking about the switch, and nothing at all of the chief's engineering ethics.

"I've been watching your work lately, and I'm sorry to say it's not at all satisfactory," continued the chief. "You've got to brace up. You must be far more up to date and efficient."

Again Doran assented vaguely. His mind had wandered off to the north end of the Haven River Bridge.

"And when I give an order," threatened the chief, "I expect it carried out with ready compliance. Otherwise only one thing can happen. I presume you understand?"

"Certainly," responded Doran, coming back mentally to the actual scene of things. "Yes, I guess I can manage to put in that switch between the Express and the Limited."

The chief engineer stared at Doran as if agreement was the last turn he wished. Which was a fact; for he thought he had driven Doran into a corner where his resignation could be forced. But Doran had conformed to what was intended to be an impossible order. Therefore, so far from being appeased by his assistant's attitude, the chief took it as a reflection on his own professional intelligence, and liked Doran none the more for it. He was still convinced the thing could not be done, that Doran would get into a tangle with a consequent delay of traffic, and—a summary discharge would reasonably follow.

"All right," he nodded. "But mind I can't spare you extra men for the job, and—er—you must remember you are not to obstruct the northbound track."

"I'll remember," was Doran's simple rejoinder.

FOR the greater part of that night Doran sat in his room figuring out how the fixing of the switch in the given time could be accomplished. As the hours succeeded one another his table and the floor adjacent became littered with pencil sketches of the scene, and mathematical calculations running into long decimals and fractions. One difficulty that he had to overcome was to avoid disturbing a derail. This derail was a device for throwing a train off the track in any such desperate emergency as running past signals and heading for the bridge when open. In that case the deliberate wrecking of a train would be a lesser disaster than permitting it to plunge headlong into the river with its human freight. It was worked by a lever in the approach to the bridge signal tower; which, in turn, operated an electric motor by the side of the track in lifting a heavy iron bar on to the inner rail. To avoid using up time by interfering with the derail was at any rate exhaustive of much of Doran's gray matter. So he toiled and worked until the pale light of dawn was framed in his window and stole in to mingle with the white glare of his electric lamp. At last he flung himself on his bed and stared up at the ceiling.

"I can't possibly get more than two minutes to spare out of it," he muttered to himself; "though maybe another half-minute could be reckoned on. But—I guess not. Two minutes are enough leeway, and that—that makes for the very deuce of a record! Wonder why the old chief was so set on the job? Wasn't at all necessary. Wonder why he's turned so cranky of a sudden? Don't see I've done anything wrong."

Thus wondering, Doran closed his eyes, gave a huge gasp of mental and physical exhaustion, and dropped off to sleep.

Doran's method of tackling important work was peculiar to himself, and contrary to all the principles of efficiency and discipline laid down by his chief. There was no mere parade of fuss, hustle, and jump about him. Ten minutes before it was to be started an onlooker might have thought he had nothing to do with the business. He strolled around in apparently aimless fashion, tossing a word now and then to his foreman, and nervously twisting a bit of wire by way of habit. If the chief engineer happened along at such times, he threw up his hands in despair, vowing that for impossible assistants he had the prize in Doran. Yet somehow the thing was done right to the dot of every requirement. In his case appearances were mightily deceptive. It was said the secret lay partly in the fact that Doran was thoroughly liked and understood by his men; that, his order being given, all hands worked together in vigorous harmony.

BE that as it may, the men knew y report what Doran had failed to grasp,—that his position depended on the record-breaking



Do You Protect Your Throat?

NOT by swathing it in a muffler or scarf—that is a bad way, for it renders the throat more sensitive and does nothing to prevent the invasion of germs.

Protection of the throat means either destruction of infectious germs or prevention of their growth. We know that nearly all germs lodge first in the throat; sore throat obviously begins in that way. And to prevent their development into some one of the more serious bodily diseases, modern physicians are constantly urging efficient protection of the throat by means of that trustworthy safeguard

Wulfsberg's Formamint THE GERM-KILLING THROAT TABLET

Formamint is a palatable tablet which is allowed to dissolve in the saliva like candy. The powerful germicide in the tablet is thus carried into every chink and cranny of the mouth and throat lining, bringing destruction to germs, yet remaining harmless to the tissues. Pleasant to the taste, very convenient to carry and take, perfectly harmless, Formamint is the last word in scientific methods of arresting throat troubles and preventing invasion of the body by infection.

Formamint Tablets are much more effective than gargles, and for children who cannot gargle properly, they are just the thing. Every mother should have a supply of them on hand to protect the young ones, and especially during school epidemics.

Formamint is heartily endorsed by the leading throat specialists and by physicians generally, both in this country and in Europe.

We will gladly send you a liberal sample of these tablets on receipt of a two-cent stamp.

Dr. Wm. Lee Howard

The well-known medical author, writes: "I have no hesitation in stating that in Formamint we have a remedy that is invaluable in keeping the mouth and air passages free from germ infection."

Jack London writes:

"I am tremendously pleased with the antiseptic qualities of your Formamint Tablets. Formamint is a real cleanser of mouth germs."

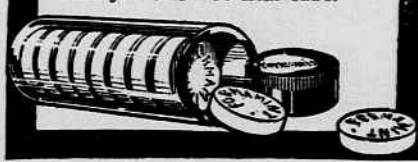
Mme. Adelina Patti

The Queen of Song, writes: "I have taken Formamint Tablets for some time past and have much pleasure in saying that I find them very beneficial to the throat."

A. WULFING & CO.
33U Irving Place, New York
Affiliated with The Bauer Chemical Company, Makers of Sanatogen, the Food Tonic

Write Today for FREE Sample

It is of generous size and will prove to you that Formamint is wonderfully effective as well as pleasant in mouth and throat troubles. Send us a 2-cent stamp to pay postage and we will gladly send you this free trial tube.



WIN or LOSE?

This Shot Decides

Often, at the most critical point of the game, an awkward situation can be solved only by the utmost delicacy of touch, accuracy of hand and eye and steadiness of nerve.



BURROWES

Billiard and Pool Table

In Your Own Home

It can be set on library or dining-room table or mounted on its own legs or compactly folding stand. Sizes range up to 4 1/2 x 9 feet (standard), each size exactly correct in proportions and adapted to the most expert play. The most delicate shots, calling for skill of the highest type, can be executed with the utmost precision.

\$1.00 DOWN

Prices are from \$15 up, on terms of \$1 or more down (depending on size and style) and a small amount each month. Full playing equipment free.

FREE TRIAL—NO RED TAPE—On receipt of first installment, we will ship table. Play on it one week. If unsatisfactory return it, and on its receipt we will refund your deposit. This insures a free trial. Send to-day for illustrated catalog, giving prices, terms of payment, etc.

E. T. BURROWES CO., 214 Center St., Portland, Me.

LEARN RAG TIME

Let me teach YOU Rag-Time Piano Playing by MAIL. You learn EASILY—in just a few lessons AT HOME. My system is so simple you'll play Mendelssohn's Wedding March in the fifth lesson. You'll say

Gee, but I'm Crazy for Rag!

Even if you can't play a single note, I'll teach you to play ANYTHING in Happy Rag-Time. Think of the pleasure for you—and the SURPRISE for your friends! Get Busy! Everybody's doing it! Write me for special low terms, positive guarantee, and testimonials from hundreds of happy students.

And Christensen (the Rag-Time Director) Christensen School of Popular Music 817 Christensen Building, Chicago, Ill.

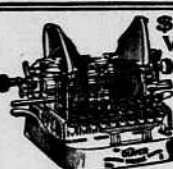
Makes Talking Machines Sound Life Like

This is the Original and Genuine Morse Clarifier. A remarkable little device made to fit in tube adjoining reproducer of any make of machine. It renders the sound loud, clear, life-like and eliminates that unpleasant

metallic effect. Easily inserted without marring or adjusting machine and everlasting. \$1.00 Mailed, Prepaid. Send dollar bill, 2c stamps or check at our risk. **GUARANTEED** absolutely satisfactory or money refunded. References, anywhere in Minneapolis. In ordering state whether for Victor, Victor-Victrola, Edison Cylinder with metal or rubber connection, Edison Disc, Columbia Disc, with new bayonet or former tone arm or Columbia Cylinder. Information mailed free. Buy our extra fine imported needles, medium and loud, 5 cents per hundred postpaid. **MORSE BROTHERS, Mfrs. and Distributors** 640 Lincoln Building, Minneapolis, Minn.



Piano Tuning Pays \$5 to \$15 a Day Our Tune-a-Phone removes guesswork. Success with or without a knowledge of music. Diploma granted. Free book. **NILES BRYANT CORRESPONDENCE SCHOOL**, 61 Art Inst., Battle Creek, Mich.



\$4 Per Month Buys This Visible Oliver Typewriter Nothing Down—Free Trial. Less than Agents' Prices. Shipped on approval. If you want to keep it, send us \$4 a month. Our booklet is worth sending for because it tells you how to save \$41.50. It's FREE. **Typewriters Dist. Syndicate** 166 N. 2nd St., Chicago

LEARN JEWELERS ENGRAVING

This high salaried and easily learned trade taught thoroughly by mail. We teach beginners better engraving than can be gained in years of rigid apprenticeship. We also improve the skill of any engraver. Ask for catalog, Free. **Engraving School**, 46 Page Bldg., Chicago, Ill.

placing of that switch. Perhaps that was why they jumped to the work the moment that the Cleveland Express had thundered past. They had made up their minds to stand by Doran, even as he had championed them on occasion in the past. What was more, they were accustomed to maintain, if need be with hard-hitting fists, that when it came to a test Doran was the only engineer worth talking about on the road. Presumably that was the reason they toiled, heaved, and sweated as they had never done before in the dust and sweltering heat of a July sun. Doran noticed their super-exertions, and felt it his duty to interpose a warning.

"Easy there! Easy, Boys!" he cried. "I don't want to have an accident or any of you fellows laid up sick."

MacNab, his foreman, was at the end of a rail straining the muscles of a back, chest, and shoulders built magnificently on the elephant strength pattern. He jerked his head around, disclosing a face begrimed and dripping with sweat.

"All right, Sir, all right, Mr. Doran," he responded, with a knowing look. "Don't you worry about us. If we don't surprise someone with this darned old switch, he can have all our resignations—and that's a fact!"

So the work went on rapidly under Doran's exhaustively calculated plan. Some minutes before the Interocean was due he looked over the situation, and saw that it was safe for the passage of the train; that the work would be finished within the time reckoned, allowing the two minutes to spare. So he called in his flagman from round a curve leading directly to the bridge, regarding the switch as practically complete.

Doran pushed back his hat, mopped his brow, and pulled himself together with a grin of satisfaction. The foreman glanced along the gleaming rails to see that the track was clear for the Limited, and the men gathered up their tools.

SUDDENLY a rending crash smote upon their ears from the bridge. Doran looked quickly, to see that the engine of a local passenger train had jumped the track and was grinding its way to a halt right across the down line on the bridge. A second or two later the throat of the Limited engine gave forth a warning that she had entered the curve and was headed at thirty-five miles an hour for the bridge.

Doran glanced at the still uplifted arm of the signal set fair for the Limited, and reckoned that the signalman in the tower had not seen the accident on the bridge. In a flash he also grasped the fullness of the catastrophe impending if the Limited was not stopped before hurling itself to a collision with the local. If the signalman did not derail the Limited, there was one way he might do so, suggested by his spontaneous ingenuity, and avert a terrible loss of life, but at his own most certain risk. It was the lesser disaster for which the derail was provided, but which evidently the signalman was failing to grasp.

Doran sprang a half dozen yards up the track, whipping out a pocket knife and opening the blade as he ran. He presently dropped to his knees and wrenched off the wood cover of a narrow box half buried in the track. This disclosed a set of electric wires connected with the derail motor, which in turn operated the heavy iron bar attached to the inner rail of the line. With the roar of the onrushing Limited in his ears, Doran swept his knife blade across the exposed electric wires. By this means he hoped to close the circuit and lift the iron bar to the rail. His features were tensely drawn as he turned his head backward to watch the effect of a theoretically accurate but hitherto untried experiment. The bell of the Limited's engine was now clanging furiously and her whistle shrieking as the train swept down on him with all brakes set. He knew the steel monster was close upon him without a chance of being stopped; but he kept his knife blade to the wires and his gaze fixed on that bar. My Heavens! if it didn't work, not his life alone but dozens of others would go hence! Only a few seconds had passed since his mind had swept him into action; but the suspense in time seemed immeasurable.

With a gasp of relief he saw the bar presently rise and settle into place. Then, instinct of self preservation prompting him, he half tossed and half rolled off the track, to fling himself at full length into the angle formed by a protecting wall.

FOR several moments Doran witnessed nothing; but a bombardment of noises filled his ears. There was a violent jolt when the front inner wheel of the Limited's engine struck the derail bar, followed by an awesome rending and crashing as she drove on for a short distance tearing up the track. A shower of glass fell on Doran when a car

lurched over and scraped along the retaining side wall. It presently stopped with one of its wheels touching the hollow of Doran's back. He twisted round, to find the car hanging over him, but with a passage out beneath it. By that way he crawled from under and struggled to his feet. Except for splinters of broken glass sticking into him, he judged he was unhurt. For the time being the hissing of escaping steam was the predominant sound. No one as yet seemed to realize exactly what had happened, those thumped, bumped, and shaken up in the cars remaining too bewildered to voice loudly their several emotions. Doran stumbled down the track a short distance until he reached a telephone locker. He tore open the door, grasped the receiver, and called up the chief engineer's office.

"I've derailed the Interocean!" he shouted. "Send wreckers in a hurry!"

"What? Derailed the Interocean!" came back over the wire. "Great Scott! Hold on a minute!"

Doran could tell by the nervous excitement of the telephone clerk that to derail the Interocean was regarded by him as nothing short of railroad high treason, the very worst a man could do, be the circumstances almost what they might. Presently he heard the chief engineer's voice in sharp, staccato accents.

"What's this? You've derailed the Interocean?" he spoke as if doubting the news.

"Yes. There was—" "I'll be right up," the chief broke in on what he thought was the preface of a worthless excuse. He imagined that Doran had got into a tangle far beyond all anticipation and blunderingly wrecked the Interocean. "You'd better not let me find you around!" he hurled his words over the telephone. "You've at last proved yourself utterly inefficient. You're discharged. You can turn things over to the most competent man under you. Understand?"

"I—I understand," responded Doran, recognizing the tremendous responsibility he had taken upon himself in derailing the Interocean. "You can credit my men with putting in the switch in accordance with your orders."

"Confound the switch!" fairly swore the chief. "What's that in comparison with derauling the Interocean? But I knew you'd do something like that before long. I guess your career as an engineer is ended."

DORAN turned from the telephone locker to find someone to whom he could depute his authority. Excitement was now beginning to run high. Passengers were piling down from the cars, some of the more unnerved in the front section scrambling through broken windows. The engine had smashed her nose through the retaining wall, and hung perilously over an embankment. Four of five cars in her rear had heeled over and stood at different angles. Amid the general confusion the train crew were striving to reassure the terrified and maintain order. From one of these Doran learned that no one was believed to have been killed or fatally injured. At least the derail with its additional protection of the retaining wall had proved to be efficient. It had saved a disaster of unthinkable magnitude. Presently Doran came across an engineer of construction hurrying to help.

"Say," he cried, "it was mighty lucky the derail worked just then!"

"The chief's order is that you are to take charge here until he comes," Doran halted him an instant. "I'm fired—discharged."

"Why—what—hold on a minute!" The construction engineer paused, looking puzzled. But Doran was already scrambling down the embankment. He hastened to a nearby wayside inn to suggest preparations for receiving any seriously injured. Then he began very methodically to pick the splinters of glass out of himself. From this occupation he was presently summoned back to the scene of the derailment by one of his men.

"Mr. Foster wants to see you right away," announced the man.

"Who's Mr. Foster, and what does he want to see me for, Jim?" questioned Doran. "He's one of the directors of the road. His private car was tacked onto the rear end of the Interocean."

Doran counted the glass splinters he had set out on a table, then followed the messenger. The director's private car had remained on the rails, and the director was standing beside its steps giving general orders.

"Did you send for me, Sir?" asked Doran. "Yes. Why did you leave us in that way—go off just when you were badly wanted here?"

"I'm discharged, Mr. Foster."

"Discharged! By whom?"

"The chief engineer—over the 'phone.'"

"What for?"

"I—I haven't the least idea," replied

Hartman Will Trust You Asks No References No Advance Payment

Remarkable Bargain Sale

The importance of this great Price-Smashing Sale of guaranteed dependable Home-Furnishings cannot be overestimated. What ever you need—now is the time to get it. Pay later. You'll like HARTMAN'S plan—YOU, the great home-furnisher. No dealer, wholesaler, mail-order house, nobody else can save so much for you as HARTMAN'S. HARTMAN'S—no red tape—no references asked—no embarrassment—no interest—no extra charges—no mortgage or security—everything confidential. **30 Days Trial** Order anything you want from HARTMAN'S. If not satisfactory, return it—HARTMAN quickly refunds your money, pays freight both ways. Send for HARTMAN'S

Big FREE Special Bargain Catalog

New designs—every article guaranteed. Competition-smashing prices, which have made HARTMAN'S the biggest in the world. **No. 0F899—Brussels Rug** 9x12 ft. New Pattern, Medallion center, seamless. Select worsted yarns. Beautiful combinations, green, red, blue, tan, etc. **75c** Per Month

During this big Bargain Sale, you can buy this specially advertised rug without making any payment in advance.

HARTMAN Fur & Carpet Co. 3524-26 Westworth Ave. CHICAGO, ILLINOIS

"DON'T SHOUT"

"I hear you—I can hear now as well as anybody. 'Hooray! Oh, something new—THE MORLEY PHONE. I've a pair in my ears now, but they are invisible. I would not know I had them in, myself, only that I hear all right."

"THE MORLEY PHONE FOR THE DEAF" is to the ears what glasses are to the eyes. Invisible, comfortable, weightless and harmless. Anyone can adjust it. Over one hundred thousand sold. Write for booklet and testimonials.

THE MORLEY CO., Dept. 761, Perry Bldg., Phila.

BROWN'S BRONCHIAL TROCHES

Save the lungs. Relieve hoarseness and coughing spells. 25c, 50c, \$1.00. Sample Free. **JOHN L. BROWN & SON** Boston, Mass.

CLASSIFIED ADVERTISING

Your advertisement inserted in the classified column of **THE ASSOCIATED SUNDAY MAGAZINES**

will be placed upon the library table of more than one million four hundred thousand homes each week

RATE, \$4.00 per line.

Smallest space sold, 4 lines—largest, 12 lines. No fakes or extravagant copy accepted.

1 Madison Avenue, N. Y. Record-Herald Bldg., Chicago

FARM LANDS

WE WILL TAKE YOUR FIRST CROP (watermelons) in full payment for our land. This crop easily raised and harvested in four months. You need not pay us one cent in cash. We know what our land will produce. High rolling, well drained land, clay subsoil, close to town and railroad. Altitude 200 feet, beautiful lakes, good roads. Railroad fare refunded to buyers. **Lake County Land Owners' Association, Department G, Fruitland Park, Fla.** Owners, not agents

VIRGINIA FARM LANDS

VIRGINIA IS THE LAND OF PERFORMANCE. Farmers live well and make money—short winter, long growing season and abundant rainfall enable two and three crops a year. Write F. H. LaRue, Agricultural Agent, Norfolk & Western Railway, Room 266, Norfolk & Western Building, Roanoke, Va. Booklets, maps, etc. on request.

ARIZONA FARM LANDS

YOU CAN MAKE EXTRA PROFITS FARMING IN the Salt River Valley. Fruits ripen early and bring highest prices. Hungry market right at home. \$300 acre up. Easy terms. Ask for Salt River Valley illustrated folder, which will be gladly sent free. **C. L. Seagraves, General Colonization Agent, AT&SF Ry., 1945 Railway Exchange, Chicago.**

FOR THE COMPLEXION

SUDDEN CHANGES of temperature, and exposure, age the face. **Satin skin cream** keeps the skin young.

Always "chic" and charming is a **Satin skin powder** complexion. Four exquisite tints. **Flesh, white, pink, brunette.**

MOTION PICTURE PLAYS

MOTION PICTURE PLAYS WANTED. You can write them. We teach you by mail. No experience needed. Big demand and good pay. Details free. **Associated Motion Picture Schools, 622 Sheridan Road, Chicago.**

CORPORATIONS

INCORPORATE YOUR BUSINESS IN ARIZONA. Least Cost. Transact business, keep books anywhere. President Stoddard, former Secretary of Arizona. Free laws, By-Laws and Forms. Reference: **Any Bank in Arizona.** Stoddard Incorporating Company, Box 800, Phoenix, Arizona

\$10.00 A DAY

State Legislatures Everywhere Passing Laws Makes It Possible For You To Earn \$10.00 Per Day

First three days work more than pays for your equipment. The next days profits and of the 300 other working days in the year \$3,000.00 or more—are yours.

A postal card to us brings you full detailed information about this entirely new contracting business in a NEW UNWORKED FIELD.

The investment is so small—the returns so large—not a man who reads this but can get into this lucrative big paying business—State Law requirements upon property owners create a demand for the services you can give them

WITH A SPRAMOTOR

It is your duty—YOU OWE IT TO YOURSELF and to your neighbor to investigate this new business. Don't wait—you may delay but time will not—WRITE TODAY.

Don't let a postal card—a postage stamp stand between you and prosperity. Get the book IT'S FREE—read it then use judgment—You'll know that you and OLD DAVE FORTUNE have at last met—that you are on speaking terms with her—that the goals INDEPENDENCE—PROSPERITY are in the near distance—REALIZED—Write.

Imperial Sprayer Co.
100 Erie St.
Buffalo, N. Y.
150 King St.
London, Ont.

You can have beautiful roses on a small space if selected from our stock of **The Best Roses for America.** Write today for Free Star Rose Catalog. It has complete cultural directions, illustrates and describes 360 Best Varieties of Roses selected from France, England, Ireland and America. Over 50 Years' Experience. The Conard & Jones Co., Box 37, West Grove, Pa. Rose Specialists.

112-PAGE POULTRY BOOK FREE

If you are thinking of buying an incubator or brooder you should send for our big 1914 catalog at once. Describes many new models in this year's

PRAIRIE STATE Incubators and Brooders
Also contains about 60 pages of valuable poultry information—how to feed, rear and brood; treat diseases, poultry buildings, home grown winter feed, etc. Just one postal brings it to you—now.
Prairie State Incubator Co., 130 Main St., Homer City, Pa.

SHOEMAKER'S BOOK ON POULTRY

and Almanac for 1914 has 224 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickendom. You need it. Only 15c. C. C. SHOEMAKER, Box 904, Freeport, Ill.

Chicken Raising FREE

"After all, you can trust the hens to make the living," says Johnson. And his book gives the condensed experience of half a million who have succeeded with Old Trusty Hatcher. Sold on trial. Book Free. M. N. JOHNSON CO., Clay Center, Neb.

Best Birds, Best Eggs, Lowest Prices

All leading varieties pure-bred Chickens, Ducks, Geese and Turkeys. Largest Poultry Farm in the world. Fowls, Eggs and incubators at lowest prices. Send for big Book "Poultry for Profit." Tells how to raise poultry and run incubators successfully. It's FREE, send for it. J. W. MILLER CO., Box 212, Rockford, Ill.

130 Egg Mankato Incubator \$7.25

A high class hatchery direct from factory. Red wood triple walled, asbestos lined, copper hot water tank, double regulator, safety lamp, wavy, etc. Sure, safe, simple, set up and ready for use. Money back guarantee. 18 years at it. Brooders for 120 chicks, \$2.50; for 240 chicks, \$4.00 and up. Big catalog free. MANKATO INCUBATOR CO., Box 751, Mankato, Minn.

Greider's Fine Catalogue

and calendar of pure-bred poultry for 1914, large, many pages of poultry facts, different breeds in natural colors, 10 varieties illustrated and described. Incubators and brooders, low price of stock and eggs for hatching. A perfect guide to all poultry raisers. Send 10c for this noted book. H. M. GREIDER, Box 29, Rheem, Pa.

Latest Book "Profitable Poultry," 128

pages practical facts, lowest prices on fowls, eggs, incubators, etc. 180 beautiful pictures. Latest improved methods to raise poultry. All about Runner ducks, 32 other varieties pure-bred poultry daily 5 cents. Berry's Poultry Farm, Box 24, Clarinda, Ia.

HERE IT IS FOR ONLY \$4.00

A GREAT BIG HAND GRINDER that will furnish 1 to 2 lbs. per hour of ground corn, oats, peas, dry bone, etc., for poultry feed. Shipping wt. 40 lbs. Get Circular. Stover Mfg. Co., 354 Plymouth St., Freeport, Ill.

56 BREEDS Chickens, Ducks, Geese and

Turkeys. Hardy, northern raised, pure bred, of finest plumage. Fowls, eggs and incubators at lowest prices. America's greatest poultry farm. Send 4c for large, fine 19th Annual Catalog and Poultry Book. R. F. NEUBERT CO., Box 833, Mankato, Minn.

Poultry Flats

Make poultry raising easy at half the expense. Profits sure. \$800.00 from just one. 10c in stamps or coin brings the book containing 124 pages. INLAND POULTRY JOURNAL, Indianapolis, Ind.

Doran, "unless it was for derailing the Inter-ocean."

"Nonsense!" ejaculated Foster. "Must be a big fool mistake somewhere. I've been talking to your foreman, and heard all about your action. You did absolutely right. You're hurt," he noticed blood trickling down Doran's neck and arms.

"Nothing to speak of," protested Doran. "A good deal to speak of," asserted the director. "Don't argue with me, but go right up into my car. They can fix you up there temporarily, at any rate."

"But you forget I'm discharged from the road, Sir," hesitated Doran.

"Rot!" cried the director. "You're rein-

stated by my order. Will that satisfy you?"

"But you've not heard the chief engineer's side," persisted Doran.

"Hang his side!" from the director. "If you refuse to go up into my car and have your wounds dressed, that will be insubordination. Then you'll be fired again. Understand?"

"But a few glass splinter holes are nothing," argued Doran. "I'd much rather jump in to help clear up the wreck."

"Go!" shouted the director, pointing upward to his car. "My conscience! what a man you are to move against your will! Thank Heaven I'm not your chief engineer, but thank Providence you are in the service of this road!"

WHY WATCHES KEEP TIME

EVERYONE knows that most substances expand when heated and contract when cooled. And most people know that a wheel or pendulum will take longer to move through a given arc when its diameter or length is increased. But how many people have ever stopped to think of the connection of these two natural laws and their effect upon the watch or clock?

For awhile the reconciliation of these two laws proved a most difficult problem to clockmakers. A clock whose pendulum would grow longer or shorter with the changes of temperature was not a dependable timepiece; and the same difficulty was experienced in the balance wheel of a watch. In fact, until this could be remedied, an accurate mechanical timepiece seemed an impossibility.

Several solutions of the problem have been made, and more ingenious devices it would be hard to find.

One of the simplest solutions was found in 1715 by Graham, a London clockmaker; who is also credited with the invention of the dead escapement for clocks and the horizontal or cylinder escapement for watches. Graham used a glass vessel about two-thirds full of mercury in place of the usual weight, or "bob." When the rod would expand because of a rise in temperature the bob would of course be farther removed from the center about which the pendulum swung; but while the rod was expanding downward the mercury was expanding upward, and the amount of mercury was so proportioned that its expansion exactly compensated that of the rod, and the center of oscillation remained the same. Just the reverse would occur when the temperature fell. This form is known as the mercurial pendulum.

It was later improved by the late E. J. Dent. He replaced the glass mercury jar with one of cast iron, into the top of which the steel connecting rod was screwed, with its end plunged into the mercury. In this way the mercury, rod, and jar acquired the new temperature, in case of a change, more simultaneously.

Another form on much the same principle is the gridiron pendulum. The earlier

pendulums of this type consisted of nine vertical, alternate bars of brass and steel. Steel expands in a given interval of temperature only sixty-four per cent. of the amount brass will expand in the same interval. So the brass bars were made proportionately shorter than the steel bars, and so arranged that their expansion upward would compensate for the downward expansion of the steel bars during a rise in temperature, and of course vice versa when the temperature fell. Thus the bob would be raised by the brass bars as much as it would be lowered by the steel bars, or, in reality, its position would remain the same.

This was the old gridiron compensating pendulum. The new gridiron is based upon the same principle—a utilization of the greater expansibility of one metal than another—but uses zinc and iron bars instead of brass and steel. Because of the greater expansibility of zinc over iron than brass over steel it requires fewer bars.

Compensation in the balance wheel of a watch was accomplished by the use of brass and steel rims. Look at your watch. You will find that the balance wheel has two spokes (some have three), to each of which one end of one-half (or one-third) the rim is attached. The other end of the semicircular part of the rim is not fastened to anything. Several tiny, adjustable weights are attached to the rim near the free ends of its segments.

But notice the rim itself. It consists of two parallel strips of metal, brass and steel, firmly fastened together, the more expansible, brass, being on the outside. When the temperature rises the spokes of the wheel expand, pushing the rim outward. This increases the diameter and tends to make the wheel move more slowly,—not much, but just enough to make the watch inaccurate. But while the spokes are expanding the rim is also expanding. The outside, or brass, layer expands considerably more than the inside, or steel, layer. Since the layers are fastened so securely together that they cannot separate, the free end is forced in toward the center, and the average diameter remains the same. The reverse is true when the temperature lowers. —William B. Byers

THE BOOMERS

want you to say anything about it, I'd hold off for six months."

But he was secretly pleased at their independence when he learned that they had sent home for money and had invested it in the somewhat foolish attempt to bull a market that refused to rise. He saw the crumbling of the city daily under his eyes, until it would have been possible to buy a lot on Main-st. with a fine "High Art" building for less than the initial cost of the land, and through it all, doggedly fighting a losing battle, stepping over backward with stiff steps, he passed. At first he too had plunged and bought, hoping by his example to stave off the dissolution; then, recognizing the hopelessness of such a course, had tied his pursestrings with a hard knot against the inevitable rainy day of the end, and patiently waited for the coup de grâce.

He was in a doubtful state, and speculating more on the future, when Port Hatch would finally be numbered among the deserted cities, than on the immediate passing days. He was studying the real estate and financial news from other cities, with the brave resolution that when he left Port Hatch he would try to take the Colonel with him and start all over again, surreptitiously advancing funds to the Colonel for a partnership; for he knew that by no other course could the Colonel be induced to accept anything. He did not stop to consider the change in his own mental attitude, nor could he have explained it, any more than he could have accounted for the al-

terations in the tides that still beat languidly against the all but deserted wharves of the city.

All he knew was that he had fought it all out that day in Seattle, and had determined never again to run from any issue and never again to evade the truth. He even contemplated a journey to New York to try to make peace with the directors of the Atlantic & Oriental. And it was not through fear nor selfishness that he did not, because he would willingly have returned to his three oldtime victims all the money they had ever lost had he believed that such a course would cause them to relent; but he was convinced that their announcement was irrevocable, and that in all probability the inducements offered by Seattle were greater than any that Port Hatch could give. He had tried to learn more definitely from the Colonel exactly what the conversation at the board meeting had been; but found him extremely reticent or hot tempered whenever the subject was broached. So he finally had dropped it.

THE decline of the Colonel was more pitiable; for his blow was greater, inasmuch as he had never for an instant doubted the advent of the railway, and the continued prosperity of the city of which he was so insanely proud. It required several weeks for him to grasp the extent of the disaster, and then there were regular weekly blows that hammered and battered him beyond belief, these being occasioned by

**Here's Health and Power Vim and Vigor**

ALL YOURS! Strength that is more than mere muscular strength. The strength of perfect health, abundant nerve force—the strength of keen relish is now within your reach through vibration! Nine out of ten people are only half alive. How about yourself? All the joys of life, strength and youth are yours through vibration. Don't fail to send the coupon below for full particulars about the

WHITE CROSS ELECTRIC VIBRATOR

This wonderful instrument gives you three of the greatest curative agents in the world—vibration, faradic and galvanic electricity. This wonderful machine sent to you on free trial.

You can have the greatest of all curative agents in your reach all the time. Don't be weak. You can be strong and healthy if you will.

Vibration Is Life

It will chase away the years like magic. Every nerve, every fibre in your whole body will thoroughly tingle with the force of your own awakened powers. All the keen relish, the pleasure of youth, will fairly throb within you. Rich, red blood will be sent coursing through your veins and you will realize thoroughly the joy of living. Your self-respect, even, will be increased a hundredfold.

This Machine Relieves the following Diseases:

Rheumatism, headache, backache, constipation, kidney disease, lumbago, catarrh, skin disease, deafness, weak eyes, general debility, nervousness, etc., etc.

Remarkable New Book Sent

FREE This wonderful book describes the human body—tellshow to get healthy and beautiful and how to keep so. It explains all about our wonderful free trial offer on the White Cross Electric Vibrator. Don't fail to get it. It's Free. S-5-175

Send FREE Coupon

Now Even though you never intend to buy a vibrator, send and get this remarkable free book, "Health and Beauty." It contains facts and information which you should know. Learn all about vibration. Send the free coupon right away—NOW. LINDSTROM-SMITH CO. 1100 S. Wabash Ave. Dept. 9421 Chicago. We also manufacture electric irons, electric hair dressers, electric stoves.

FREE

Book Coupon LINDSTROM-SMITH CO. 1100 S. Wabash Ave. Dept. 9421 Chicago

Gentlemen: Please send me free and without obligation on my part, copy of your free book on Vibration and explanation of Special Limited Offer on the White Cross Electric Vibrator.

Name.....

Address.....

My Electrical Dealer's Name is.....